

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-58. (Cancelled).

59. (Currently amended) An intercoupling component for receiving an array of contacts within a digital or analog transmission system having an electrical ground circuit and a chassis ground circuit, the intercoupling component comprising:

a substrate formed of electrically insulative material and having an upper surface, the substrate including a plurality of holes disposed on its upper surface and arranged in a predetermined footprint corresponding to the array of a contacts; ~~and~~

a plurality of electrically conductive signal contacts configured to transmit a digital or analog communication signal, each signal contact disposed within a hole on the upper surface of the substrate forming an array of signal contacts,

wherein some or all of the electrically conductive signal contacts are surrounded by an electrically conductive member configured to electrically connect to the chassis ground circuit the electrically conductive member comprising a shield at least partially disposed within the substrate; and

a plurality of electrically conductive reference contacts each disposed within a hole on the upper surface of the substrate, wherein the electrically conductive reference contacts are configured to electrically connect to the electrical ground circuit of the system.

60. (Previously presented) The intercoupling component of claim 59 wherein the electrically conductive member comprises a frame formed around an outer perimeter of the substrate.

61-62. (Cancelled)

63. (Currently amended) The intercoupling component of claim 59 wherein the substrate comprises a plurality of segments formed of electrically insulative ~~conductive~~ material.

64. (Previously presented) The intercoupling component of claim 59 wherein the plurality of signal contacts are configured to transmit single-ended signals.

65. (Previously presented) The intercoupling component of claim 59 wherein the plurality of signal contacts are configured to transmit differential signals.

66. (Currently amended) An intercoupling component for receiving an array of contacts within a digital or analog transmission system having an electrical ground circuit and a chassis ground circuit, the intercoupling component comprising:

an array of electrically conductive contacts disposed in a substrate formed of electrically insulative material; ~~and~~

an electrically conductive shield at least partially disposed within the substrate in the array of electrically conductive contacts, wherein the shield is configured to electrically connect with the chassis ground circuit; and

one or more ground planes electrically connected to the electrical ground circuit disposed within the array of contacts.

67. (Previously presented) The intercoupling component of claim 66 wherein the shield surrounds a portion of the contacts within the array of contacts.

68. (Previously presented) The intercoupling component of claim 66 further comprising:

a frame disposed around the array of contacts and configured to electrically connect with the chassis ground circuit.

69. (Previously presented) The intercoupling component of claim 68 wherein the frame is electrically connected to the shield.

70. (Previously presented) The intercoupling component of claim 69 wherein the frame and the shield are a single piece construction.

71. (Previously presented) The intercoupling component of claim 66 wherein the array of contacts are configured to transmit differential signals.

72. (Previously presented) The intercoupling component of claim 66 wherein the array of contacts are configured to transmit single ended signals.

73. (Currently amended) The intercoupling component of claim 66 further comprising:

one or more ~~members~~ contacts electrically connected to the electrical ground circuit disposed within the array of contacts.

74-75. (Cancelled)

76. (Currently amended) An intercoupling component for receiving an array of contacts within a digital or analog transmission system having an electrical ground circuit and a chassis ground circuit, the intercoupling component comprising:

an array of electrically conductive contacts disposed in a substrate formed of electrically insulative material; and

an electrically conductive frame disposed around the array of electrically conductive contacts, wherein the frame is configured to electrically connect with ~~a~~ the chassis ground circuit ~~separate from an electrical ground circuit~~ of the digital or analog transmission system.

77. (Previously presented) The intercoupling component of claim 76 further comprising:

one or more shield members, each member at least partially disposed within the array of contacts and configured to electrically connect with the chassis ground circuit.

78. (Previously presented) The intercoupling component of claim 76 wherein the array of contacts are configured to transmit differential signals.

79. (Currently amended) An apparatus for use in a digital or analog transmission system having an electrical ground circuit and a chassis ground circuit, the apparatus comprising:

a printed circuit board; and

an interconnection device coupled to the printed circuit board, the interconnection device comprising:

an array of electrically conductive contacts disposed in a substrate formed of non-conductive material; ~~and~~

an electrically conductive shield member, wherein the electrically conductive shield member is configured to electrically connect with the chassis ground circuit, wherein the electrically conductive ~~member comprises a shield~~ is at least partially disposed within the substrate; and

a frame disposed around the array of contacts and configured to electrically connect with the chassis ground circuit.

80. (Cancelled)

81. (Currently amended) The apparatus of claim 79 wherein the electrically conductive shield member surrounds a portion of the contacts within the array of contacts.

82. (Cancelled)

83. (Currently amended) The apparatus of claim 79 ~~82~~ wherein the frame is ~~electrically~~ physically connected to the shield.

84. (Currently amended) A circuit card for use in a digital or analog transmission system having an electrical ground circuit and a chassis ground circuit, the circuit card comprising:

- a plurality of contact pads arranged in a predetermined footprint; and
- an interconnection device comprising:

- an array of electrically conductive contacts disposed in a substrate formed of non-conductive material; and

- an electrically conductive frame disposed around the array of electrically conductive contacts, wherein the frame is configured to electrically connect with ~~a~~ the chassis ground circuit ~~separate from an electrical ground circuit~~ of the digital or analog transmission system.

85-89. (Cancelled)

90. (Previously Presented) Apparatus for interconnecting two electrical circuits in a digital or analog transmission system having a chassis ground circuit, the apparatus comprising:  
a first connector comprising:

a substrate formed of electrically insulative material and having an upper and lower surface, the substrate including a plurality of holes between the upper and lower surfaces and arranged in a predetermined footprint;

a first set electrically conductive contacts each disposed within a hole on the substrate;

an electrically conductive frame molded around the perimeter of the substrate and configured to electrically connect with the chassis ground circuit; and

an electrically conductive shield member disposed within the substrate between contacts in the first set of contact and configured to electrically connect with the chassis ground circuit.

91. (Previously Presented) The apparatus of claim 90 further comprising:

a second connector adapted to mate with the first connector, the second connector comprising:

a second substrate formed of electrically insulative material and having an upper and lower surface, the substrate including a plurality of holes between the upper and lower surfaces and arranged in the predetermined footprint; and

a second set of electrically conductive contacts each disposed within a hole on the substrate and each configured to mate with a respect contact in the first set of contacts.

92. (Previously presented) The apparatus of claim 91 wherein the second connector further comprises:

a second frame molded around the perimeter of the second substrate and configured to mate with the frame of the first connector.

93. (Previously presented) The apparatus of claim 91 wherein the first set of contacts comprise female contacts and the second set of contacts comprise male contacts.

94. (Previously presented) The apparatus of claim 91 wherein each pair of mated contacts defines a signal path having a length and the shield member extends substantially the entire length of the signal path.

95. (Currently amended) Apparatus for interconnecting two electrical circuits in a digital or analog transmission system having a chassis ground circuit, the apparatus comprising:  
a first connector comprising a first set of electrical contacts arranged according to a predetermined footprint;

a second connector comprising a second set of electrical contacts arranged according to the predetermined footprint and configured to receive the first set of electrical contacts, wherein each mated pair of electrical contacts defines an electrical path having a length; and

an electrically conductive member at least partially surrounding the mated first and second sets of electrical contacts and configured to be connected to the chassis ground circuit, wherein the electrically conductive member extends substantially the entire length of the electrical path defined by each mated contact.

96. (Previously presented) The apparatus of claim 95 wherein the first set of contacts comprise male contacts and the second set of contacts comprises female contacts configured to receive the male contacts.

97. (Previously presented) The apparatus of claim 95 wherein the electrically conductive member comprises a frame is disposed around the first set of contacts on the first connector.

98. (Previously presented) The apparatus of claim 95 wherein the electrically conductive member comprises:

a first member disposed around the first set of contacts on the first connector; and

a second member disposed around the second set of contacts on the second connector, wherein the first and second members are both configured to electrically connect to the chassis ground and collectively extend substantially the entire length of the electrical path defined by each mated contact.

99. (Previously presented) The apparatus of claim 95 wherein the electrically conductive member comprises:

a shield portion disposed between at least two mated contacts in the first and second set of contacts, wherein the shield portion of the electrically conductive member extends substantially the entire length of the electrical path defined by each of the two mated contacts.